

SEMINARS

SEMINAIRES

Monday 16 December

PRESENTATION

at 11.00 hrs – CN Auditorium
bldg 31/3-005

DataWave – a single chip multiprocessor

by ITT / Intermetall, Freiburg, Germany

ITT Intermetall's DataWave processor is a MIMD multiprocessor system on a single chip. Each DataWave processor consists of 16 identical processor cells which are layed out as a matrix and are individually programmable. Each cell is a pipelined super-scalar RISC processor. It communicates with its four nearest neighbours using one of eight data-driven asynchronous parallel ports. On a chip level these ICs can be cascaded in one or two dimensions. The maximal computing power of a 16 cell array is 4 GOPS. The maximal data transfer rate is 750 MBytes/s. The DataWave processor employes a data-flow principle: the local availability of data drives the processor element, not a global master clock. This implementation doesn't force the programmer to maintain global synchronism, but lets him manage a complex parallel system. Some implementations of applications (JPEG, SECAM) will be given to illustrate how to map an algorithm onto an array of DataWave cells. Some cell programs of these applications will be discussed in order to demonstrate the opportunities and difficulties in programming the DataWave processor.

Information : W. Jank/ECP

Monday 16 December

PPE SEMINAR

at 16.30 – Auditorium

UA8: Jet Measurements and the Pomeron Structure

by Andrew BRANDT / UCLA

Jet production has been studied in events with leading protons or antiprotons, with the use of UA8 Roman pot spectrometers and the UA2 calorimeter system. Evidence for such events (Hard Diffraction Scattering) has been found. Analysis of a sample of 1559 events with one or two jets with $E_T > 8$ GeV and a leading baryon with $x > 0.90$ shows good agreement with a QCD model of the Pomeron structure.

Tuesday 17 December

PRESENTATION

at 10.00 hrs – CN Auditorium
bldg 31/3-005

DEC real-time announcement : Open real-time through standards

A video rebroadcast

The Real time announcement of 10 December will be rebroadcast in the CN Auditorium. The announcement covers Open Real-time systems across all environments – VMS, UNIX (TM) and Real-time kernels (VAXELN and DECelx). Several new Real-time products for the UNIX (TM) space will be announced and continued commitment to VAXELN (VMS based toolkit) with new features such as POSIX 1003.1 and 1003.4, new target support and additional product features will be reaffirmed.

Information : Alberto Gugliemi/2128/
albertog@vxcern

Tuesday 17 December

CERN COLLOQUIUM

at 16.30 hrs – Auditorium

Field equations of weak gravity and their physical consequences

by A.A. LOGUNOV / Moscow State University & IHEP, Protvino

Wednesday 18 December

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

QED at strong couplings

by Aleksandar KOCIC / CERN

I review recent results related to the existence of the continuum limit of quantum electrodynamics. QED with light fermions undergoes a chiral phase transition at strong couplings. For sufficiently small N_f (number of fermion species), the transition is second order and the critical coupling can be interpreted as an ultra-violet fixed point around which the continuum limit is constructed. As N_f increases, the critical coupling increases as well and the transition becomes first order. For $N_f > 30$ (roughly), the transition disappears and the theory has only a symmetric phase. Because of the lack of asymptotic freedom, the theory has anomalous dimensions and the heavy modes do not decouple – they contribute to low-energy physics with unsuppressed strength and violate perturbative decoupling theorems. Higher-dimensional operators (including those necessary for regularization purposes) become relevant, and the continuum theory bears little resemblance to conventional QCD.

Wednesday 18 December

PRESENTATION

at 14.00 hrs – CN Auditorium
bldg 31/3-005

NCR-3125 Electronic NotePAD

NCR-3125 NotePad computer, released this summer, brings power and functionality of a personal computer to those who presently rely on notes, paper-forms, pencils, pocket calculators and clipboards - while masking the complexity of computing. With the NotePad, users print directly on a digitized screen with a cordless pen to "input datas". The 3125's recognition technology identifies both uppercase and lowercase block print letters, gestures and annotations, and adapts to handwriting styles. It powers Microsoft's windows for Pen-Computing and GO Corporation's Penpoint operating systems as well as MS-DOS for indoor and outdoor utilisations. The presentation will be given by Mr Stadler, NCR Switzerland. Features: light weight; A4 letter size, 3cm high; VGA screen; 386 SL-20 MHz processor; untethered writing stylus; optional 20 MB hard disk or 2 or 8 Flash EPROM storage; 2 or 4 MB DRAM; IC-cards for Flash EPROM and RAM-extension; Modem option

Wednesday 18 December

COMPUTER FORUM

at 16.00 hrs - CN Auditorium
bldg 31/3-005

Approaches to HEP software design
How to reconcile the immediate needs and the trends for the future?

by Francis BRUYANT / CERN-ECP

Based on experience with offline software for the LEP era, some of the SLAC concepts (Skeleton Logic for Analysis Chains) will be introduced, as basis for discussion. Examples of application to GEANT3 restructuring are given.

Wednesday 8 January

THEORETICAL SEMINAR

at 14.00 hrs - TH Conference Room
Determining the CP-violating phase with B-decays

by I. DUNIETZ / CERN

After a review of the only evidence for CP violation, which occurs in K_L decays, the unitarity triangle is introduced. If CP non-invariance originates from the CKM (Cabibbo-Kobayashi-Maskawa) matrix alone, then large effects with B-mesons are expected. After the classic CP eigenmodes are presented, where CP asymmetries are straightforwardly related to the CKM phases, more detailed methods are discussed. They allow the extraction of the phases from many additional modes, which are no longer CP eigenstates. The methods covered in this review are angular correlations, time-dependent studies of non-CP eigenmodes, and detailed studies of B modes with a D^0 .

Friday 10 January

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs - TH Conference Room

How long does it take to tunnel through a barrier?

by Francis LOW / M.I.T.

A remarkable feature of barrier penetration is that a particle tunnelling through a barrier appears to do so in zero time. An analysis of the conditions which would make possible an actual measurement of an anomalously short traversal time shows that such a measurement cannot be made.

Tuesday 14 January

DETECTOR SEMINAR

at 11.00 hrs - TH Conference Room

Scintillating fiber tracking for high luminosity colliders using Visible Light Photon Counters (VLPC)

by Muzaffer ATAC / University of California at Los Angeles

Tuesday 14 January

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs - Auditorium

The search for light Scalars/Pseudoscalars

by Yannis SEMERTZIDIS / Brookhaven National Laboratory & University of Rochester

Wednesday 15 January

PS SEMINAR

at 11.00 hrs - PS Auditorium
bldg 6/2-024

Rockets and spaceflight : an introduction to the technologies and the problems of space travelling

by Felix HUBER / Institut für Raumfahrtssysteme, Universität of Stuttgart, Germany

Thursday 16 January

CAS ACCELERATOR SEMINAR

at 14.15 hrs - Council Chamber

The PEP-II B factory

by Andrew HUTTON / SLAC